

Draft Compatibility Determination

Use: Firewood Cutting/Timber harvest

Refuge Name: Port Louisa National Wildlife Refuge (Refuge)

Establishing and Acquisition Authority(ies):

The Mark Twain National Wildlife Refuge (NWR), including the land area now managed as Port Louisa NWR, was established under the provisions of a Secretarial Order signed on August 1, 1958. Individual divisions of the Mark Twain NWR were designated as separate National Wildlife Refuges in a reorganization change as part of the Comprehensive Conservation Plan (CCP) in 2004. Much of the refuge consists of lands acquired in fee title by the U.S. Army Corps of Engineers (COE) that are managed as part of the refuge under a Cooperative Agreement between the Department of the Army and the Department of the Interior.

Establishing Authorities:

Refuge Recreation Act (16 U.S.C. 460k-1)

Migratory Bird Conservation Act (16 U.S.C. 715d)

Fish and Wildlife Coordination Act (16 U.S.C. -664)

Emergency Wetland Resources Act of 1986 (16 U.S.C. -3901(b) 100 Stat. 3583)

1985 Food Security Act

Refuge Purpose(s):

- "...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." 16 U.S.C. -715d (Migratory Bird Conservation Act)
- "...shall be administered by (Secretary of the Interior) directly or in accordance with cooperative agreements...and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon,..." 16 U.S.C. -664 (Fish and Wildlife Coordination Act)
- "...suitable for - (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species..." 16 U.S.C. 460k-1 (Refuge Recreation Act)
- "... the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions ..." 16 U.S.C. -3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)
- "... for conservation purposes", (1985 Food Security Act in conjunction with the transfer of Farm Service Agency, formerly Farmers Home Administration, property)

National Wildlife Refuge System Mission:

“The mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

Description of Use:

What is the use? The removal of standing or fallen trees by contractors or private individuals on Port Louisa NWR. This CD covers all wood removal activities regardless of the ultimate use of the wood (i.e., firewood, timber, pulp, wood chips, etc.). This use is not wildlife dependent but may affect local wildlife populations.

Where is the use conducted? Throughout all property held in fee title at Port Louisa NWR, Refuge managed lands of the Farm Service Agency, and on lands held in fee-title by the U.S. Army Corps of Engineers, but managed by the Refuge through a cooperative agreement. Harvestable cover types on the Refuge include bottomland and upland forest, grassland with encroaching trees, oak savanna, and remaining areas of tree plantations. During timber harvest and wood cutting activities, buffers will be implemented according to best management practices around wetlands, rivers, and creeks to prevent erosion, sedimentation, and pollution thereby limiting degradation of water quality.

When is the use conducted? Wood removal activities may be authorized throughout the year. Most often, removal of dead, dry, or cured wood will occur from October through February. Some of the remaining woody debris may then be eliminated in the following prescribed burn season. Commercial harvest activities will most likely occur during the winter months. During winter, frozen ground will facilitate access while providing protection to underlying soils, vegetation, and to adjacent wetlands by reducing sedimentation and erosion. Due to the extensive wetland system on the Refuge, access and working conditions are generally limited by hydric soils and open water. Cutting or harvesting activities may also be limited or prohibited by the Refuge Manager at times to prevent the spread of disease or invasive/exotic species, or to comply with provisions of endangered species recovery plans. Removal will not occur during refuge closed periods unless it is of sufficient distance from waterfowl concentrations that it will not be disturbing.

How is the use conducted? Harvest may include standing and fallen trees for personal use and commercial timber harvest. Equipment used for harvest may range from chainsaws and axes, to traditional logging equipment such as feller-bunchers and log skidders. Access may be by car and trailer, pick-up truck, farm tractor, ATV, or larger traditional logging equipment, and must be approved by the Refuge Manager. Differences in scope and necessary equipment will occur depending on the amount and type of wood available for removal. Firewood cutters will be issued a special use permit with conditions under which they can operate. Commercial harvesting will be awarded through a bidding process unless it is a small acquisition. Most use will be removal of a few down trees for firewood. The number of people participating in this activity will vary from year to year depending on management need and weather cycles.

Why is the use being proposed? This activity will only occur where the Service has determined that a management need exists to remove trees and brush. Although felled trees are often left in place in forestry practices, there are situations where it is desirable to remove the wood from the site to facilitate growth of desirable plants species, create fire breaks, or for public safety on trails, or near parking areas and buildings. In some cases, trees may be cut or girdled, but not removed. Wood removal may be desirable where trees are encroaching on hiking trails, fire breaks and/or roads, open marshes, grassland areas, or degrading earthen water impoundment structures. Most tree removal will be a small number of trees (<10), or trees already down from a management activity. Tree harvests serve the purpose of improving forest diversity and health through thinning, creating openings for desirable tree regeneration, removal of invasive tree species, suppressing the transmission of oak wilt and other diseases, and, in certain areas restoring oak savanna or grassland habitat. Wood cutting is not a priority public use, as defined by the National Wildlife Refuge System Improvement Act of 1997.

Availability of Resources:

Periodic and small-scale harvest operations can be adequately administered with existing staff resources. Planning, issuing permits, and monitoring a wood product harvest program would require a minimal commitment of staff hours. On lands held fee-title by the U.S. Army Corps of Engineers, project planning and implementation may be shared between agencies. In the past, the Refuge has issued approximately two permits annually for this activity. All harvest sites are noted on maps and marked with flagging tape or paint by Refuge staff. Based on past activity, we estimate that administering a small timber harvest program will require from \$500 to \$1000 in staff salary costs. Large-scale operations affecting many acres would have to be deferred until staff and funding are available. Large scale harvest on COE fee title lands for habitat management purposes would be administered by them.

Anticipated Impacts of Use:

Short-term impacts: Many wildlife species may be affected by tree harvest activities. Key waterfowl species using tree cavities for nesting include wood duck and hooded merganser. Many other bird species use forested habitat for nesting, roosting, protective cover, or feeding. Examples of important species include: bald eagle, red-shouldered hawk, barred owl, several woodpecker species, and many passerine bird species. The forests are also important to a variety of mammals, reptiles and amphibians, insects, and flowering plants. The federally endangered Indiana bat (*Myotis sodalis*) uses the bark of trees for maternity roosts. They use a variety of species and sizes of trees.

During harvest activities, wildlife would be displaced to adjacent areas, though this disturbance is not likely to have a measurable impact and would be mitigated by timing and duration of harvest, i.e., larger harvests conducted during winter months when most avian species and bats have migrated. Potential adverse impacts include: short-term loss of site-specific habitats; short-term fragmentation of the landscape with resulting impact to bird use and productivity; loss of dead whole trees on the ground; soil disturbance that may increase exotic plant invasion and erosion; damage to roads and wetlands from equipment; reduced visual aesthetics; and

disturbance to wildlife and visitors from cutting operations. These impacts are generally short-term in nature and on relatively small areas, and can be controlled to a large extent by permit conditions and management oversight. In addition, many of these impacts can be avoided by the timing of the activity in accordance with site specific characteristics and requiring equipment be cleaned prior to entering the Refuge to minimize the potential spread of invasive species. Required cultural resource surveys and actions would be conducted as determined in consultation with the Service's Regional Historic Preservation Officer prior to the initiation of any mechanized logging operation. Minor tree felling can occur outside of the dates specified for breeding Indiana bats of April 15 to September 16. Smooth barked trees that do not provide habitat for bats can be removed anytime.

Long-term impacts: Carefully managed harvest would provide long-term benefits to wildlife and plants by improving overall forest structure, composition, and health. Potential positive impacts include: restoration, maintenance and enhancement of forest and savanna habitats; maintained or increased forest diversity (age, species, and structure), and provision of essential habitat requirements for declining forest-dependent plant and animal species.

The removal of woody vegetation facilitates native habitat restoration efforts on the Refuge. While habitat transition from forest to savanna or grassland will displace species which depend on dense forest cover, forested areas thinned to oak savanna densities would restore a threatened and declining habitat, and support associated savanna or grassland wildlife species. Timber stand improvement activities in forested areas of the refuge will improve tree species diversity and size classes and improve forest health for migratory birds.

Cumulative impacts: Much of the land adjacent to the Refuge was cleared for agriculture over the past century and a half. Tree harvest may continue to occur on lands adjacent to the Refuge, which would cause cumulative disturbance or changes in broader regional forest habitat. However, most current harvest on adjacent lands are done under a management plan with the state forester and typically benefit forest health. Most tree removal on refuge lands is in a very small, localized area.

Timber stand improvement activities will benefit forest habitats for migratory birds. Implementing tree harvest in addition to prescribed fire as forest management tools will benefit the savanna and grassland habitats by promptly setting back succession and maintaining native species. These are habitats that have been significantly reduced throughout the Midwest by fragmentation and degradation. These restoration efforts will also benefit many declining migratory birds and other wildlife species dependent on "open" habitats.

Potentially negative cumulative impacts within the Refuge and in the watershed downstream of the Refuge may include water quality issues associated with deforestation – particularly sedimentation, erosion, and pollution resulting from tree removal near wetlands, rivers, or creeks; and the spread of invasive/exotic species and tree diseases resulting from equipment use and transport of wood. However, these impacts could be mitigated through controlling the timing, frequency, and duration of the harvest activities in accordance with forest management planning, and by applying best management practices.

Public Review and Comment:

A draft of this Compatibility Determination is available for public review and comment at the Refuge Office for a 14 day period in August of 2012. The document is also available for public review on the Refuge's webpage, through local media outlets, and notices posted at libraries and post offices.

Determination:

_____ Use is Not Compatible

_____ Use is Compatible with Following Stipulations:

Stipulations Necessary to Ensure Compatibility:

To ensure compatibility with National Wildlife Refuge System and Port Louisa NWR goals and objectives the activity can only occur under the following stipulations:

1. Any tree cutting must meet specific habitat or maintenance objectives.
2. A special use permit will be issued so that refuge management goals are met, and to reduce or eliminate site specific impacts to habitat, fish and wildlife resources, cultural resources, and the visiting public.
3. When possible, vehicle access for wood removal will be limited to existing roads, trails, or fire breaks. In addition, timing of removal activities will be restricted to prevent excessive damage to actively growing vegetation, disturbance to wildlife, and the spread of tree disease. Appropriate timing (i.e. late summer which is typically dry following the growing season or during winter when the ground is frozen) is also necessary to prevent unnecessary site damage such as soil rutting.
4. Commercial equipment must be cleaned prior to entering the Refuge.
5. Standing cavity trees which are actively being used by wildlife will be marked and protected. Guidelines for protection of Indiana bat roost trees will be followed.

Justification:

Tree harvest has been determined to be compatible because beneficial impacts would far outweigh any foreseeable negative impacts, the activity can be controlled by permits, and tree harvest will ultimately benefit habitats and wildlife species on the Refuge. Indirect impacts of tree harvest are generally considered positive and thus do not materially interfere with or detract from the purpose of the Refuge or the Refuge System mission. Individuals participating in the wood harvest program will be guided by a special use permit, and thus, site specific stipulations will ensure resource protection and achievement of management goals. Most tree removal

activities are on a very small scale and are often for removal of trees along trails or other public use areas, or along fire breaks.

The removal of trees at strategic locations will benefit habitat restoration objectives in bottomland forests. Furthermore, control of woody species encroachment on wetland, grassland, and floodplain habitats is a necessary management activity and directly supports the mission of the National Wildlife Refuge System.

The removal of some dead trees reduces fuel buildup and the severity of potential wildfires. Openings created by woodcutting allows light to penetrate and stimulate the understory growth which increases woodland diversity. Impacts to the habitat as a result of access for wood removal purposes are easily avoided via permit stipulations. Any direct impacts on wildlife production and survival can be largely avoided by timing the activity so that it does not coincide with the breeding/production season. Adverse impacts from harvest would be short-term and more than offset by the long-term benefits for wildlife and plants. Tree removal would follow the guidelines for Indiana bats.

Refuge Manager: _____
Catherine J. Henry, Refuge Manager Date

Concurrence: _____
Kevin Foerster, Refuge Supervisor Date

Regional Chief: _____
Rick Schultz, Refuge Chief Date

Mandatory 10 or 15 year Re-evaluation Date: 2022